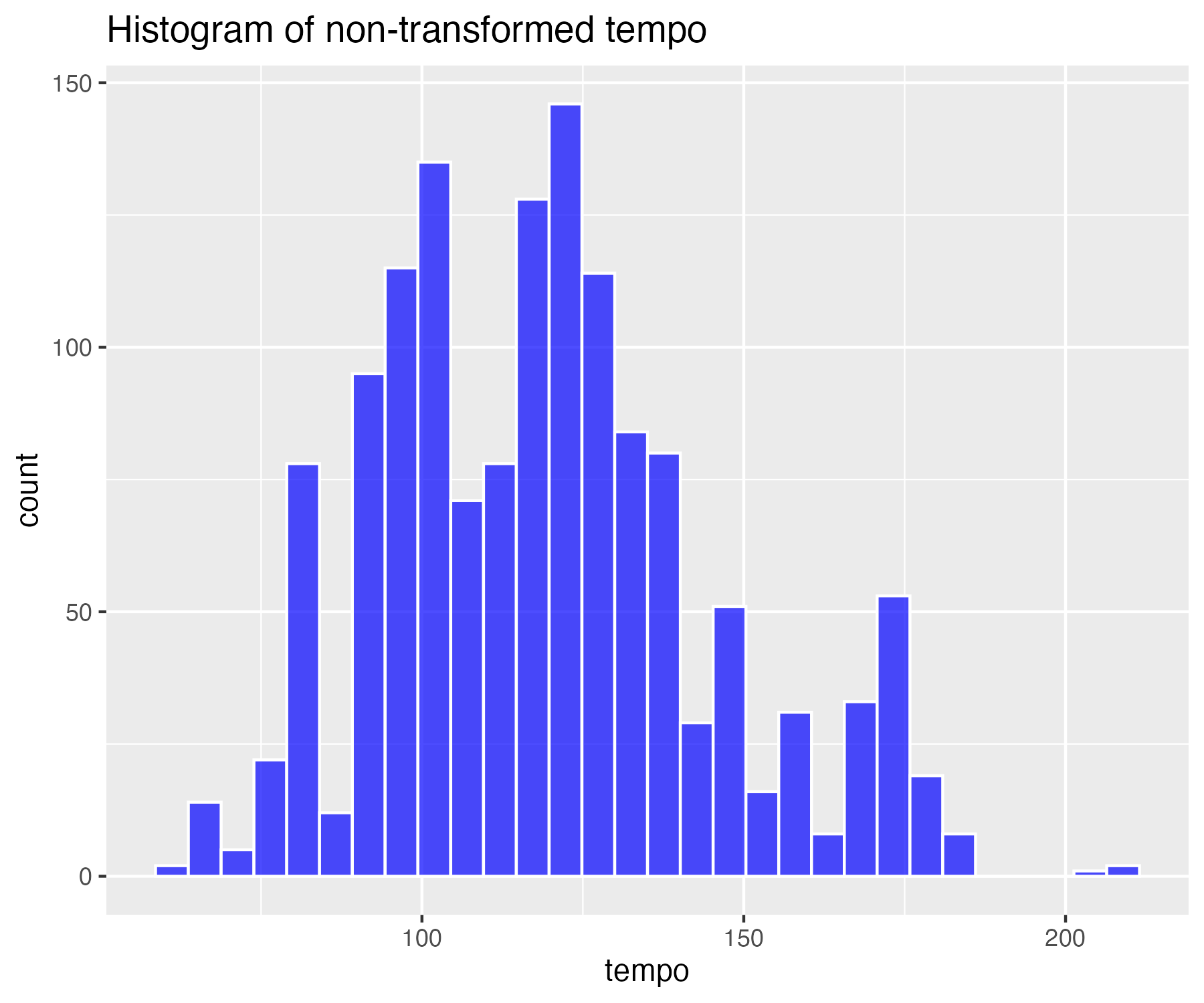
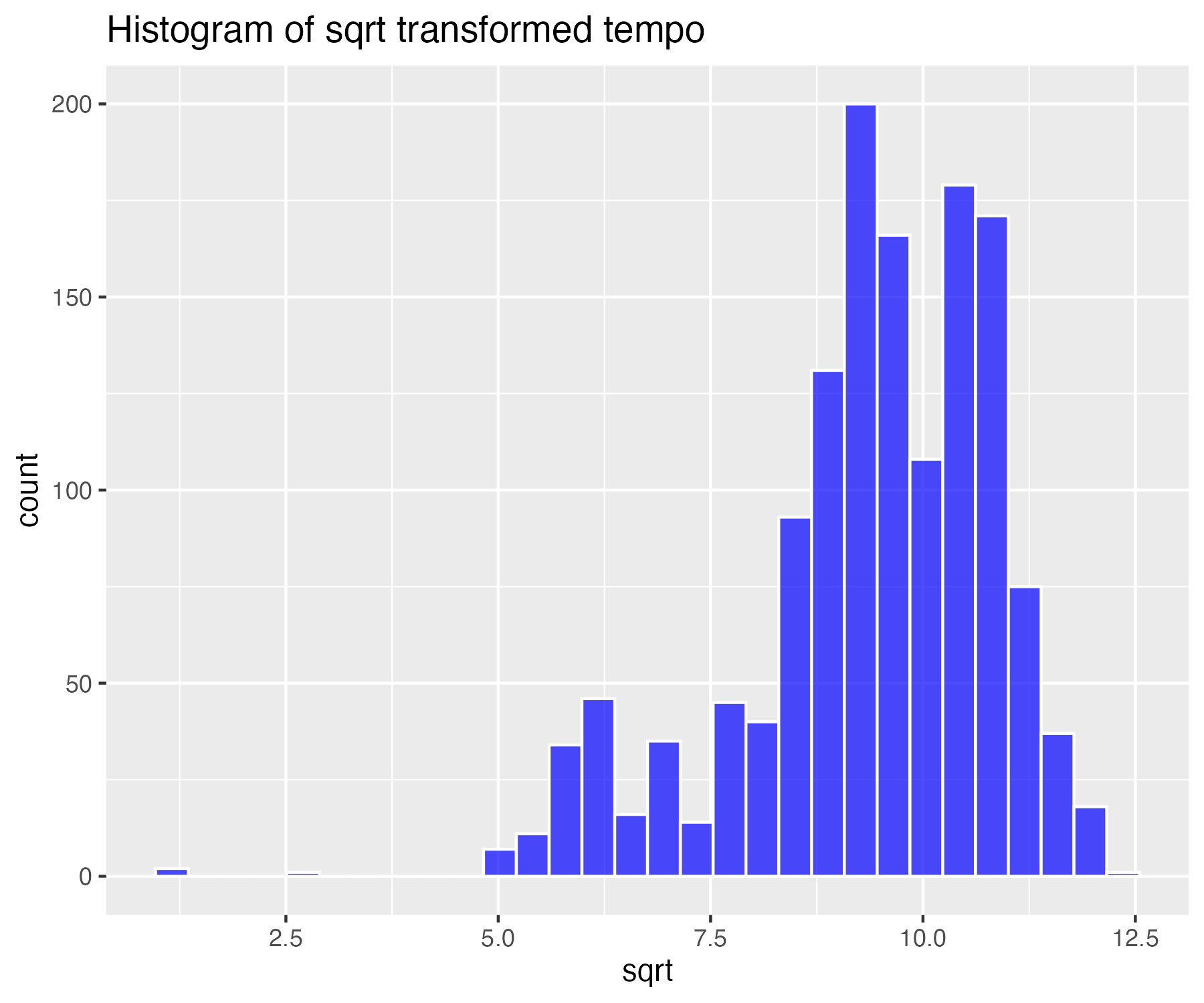
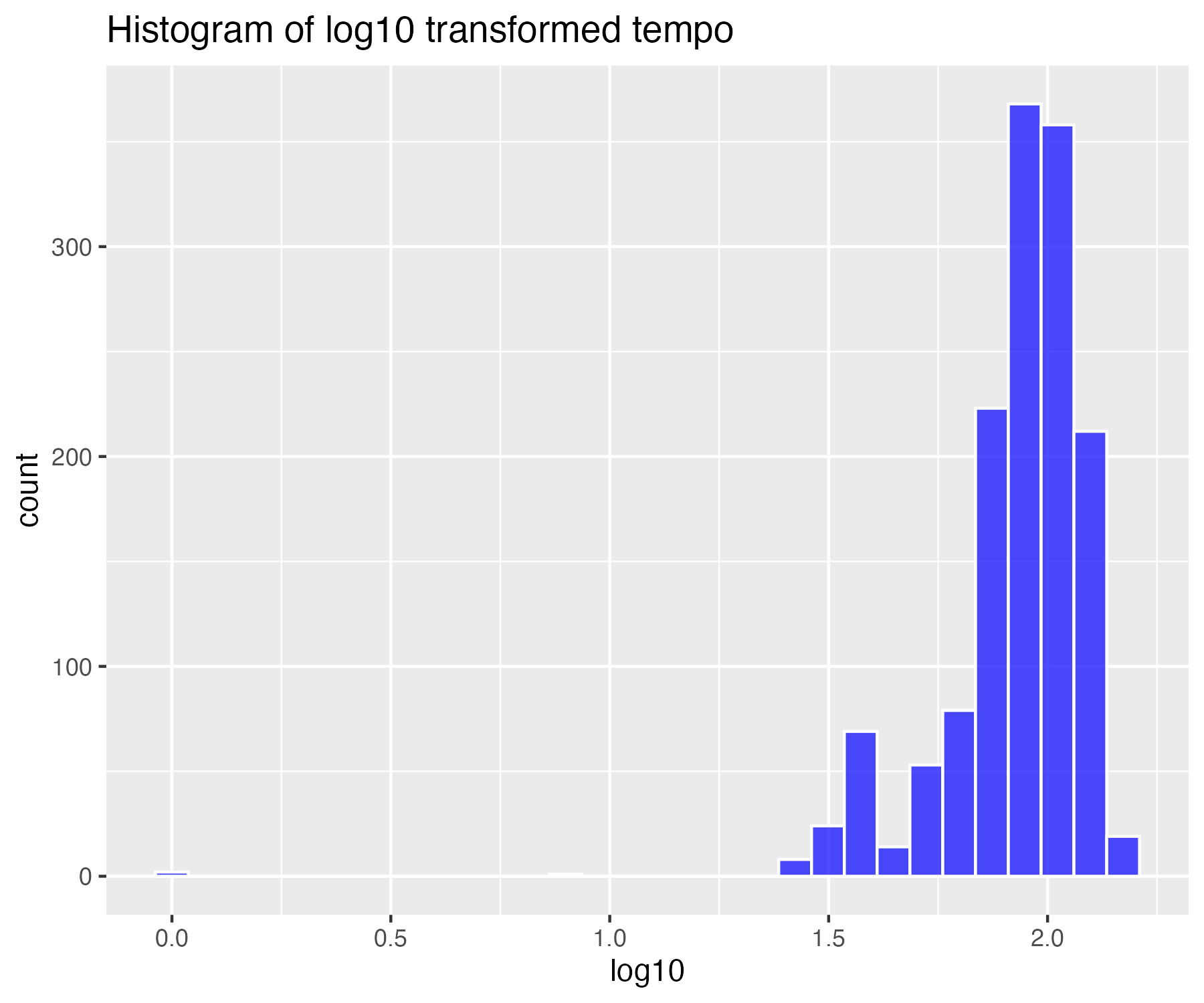
## Histogram of non-transformed tempo



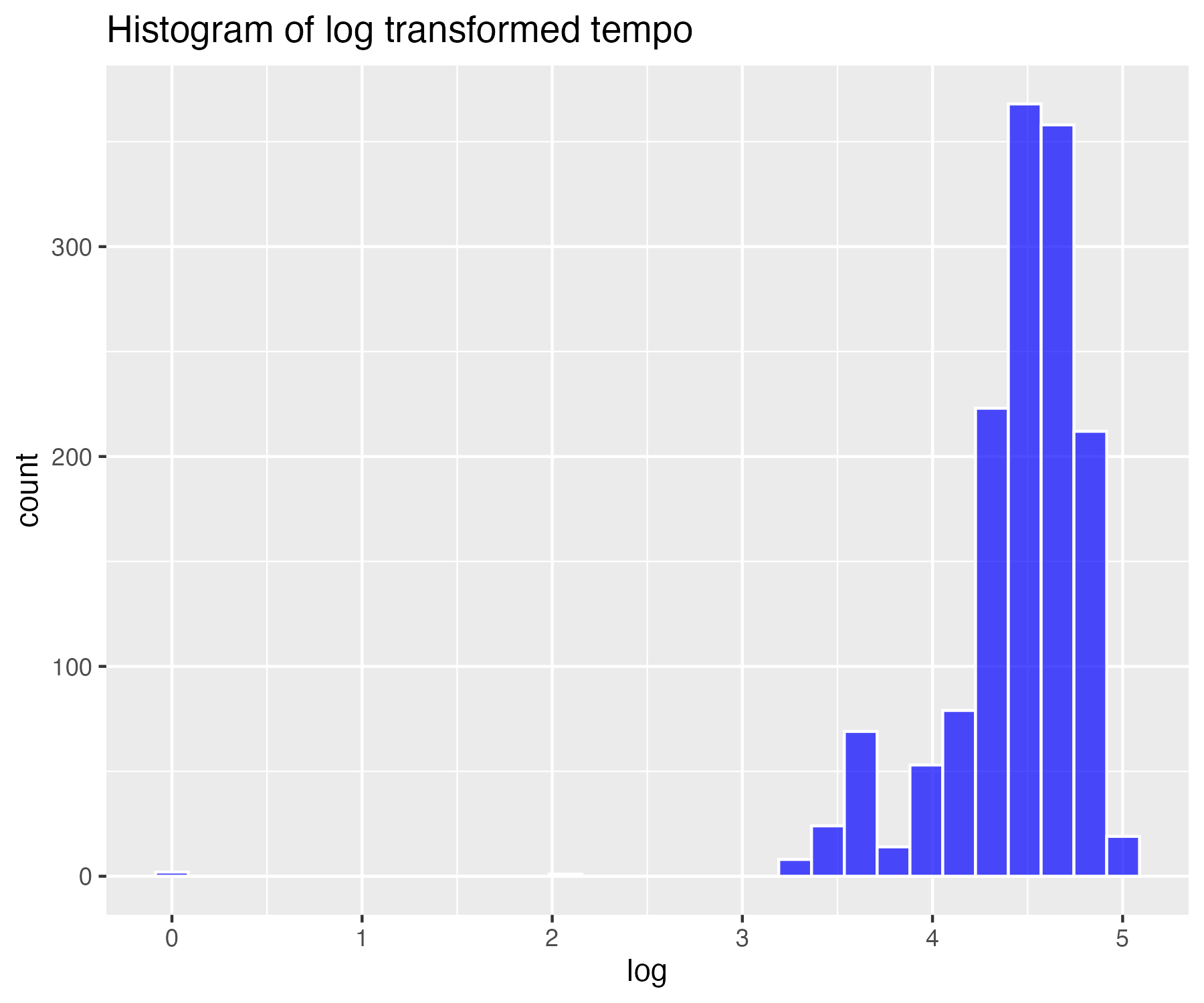
## Square-root transform of tempo (for moderate skew)



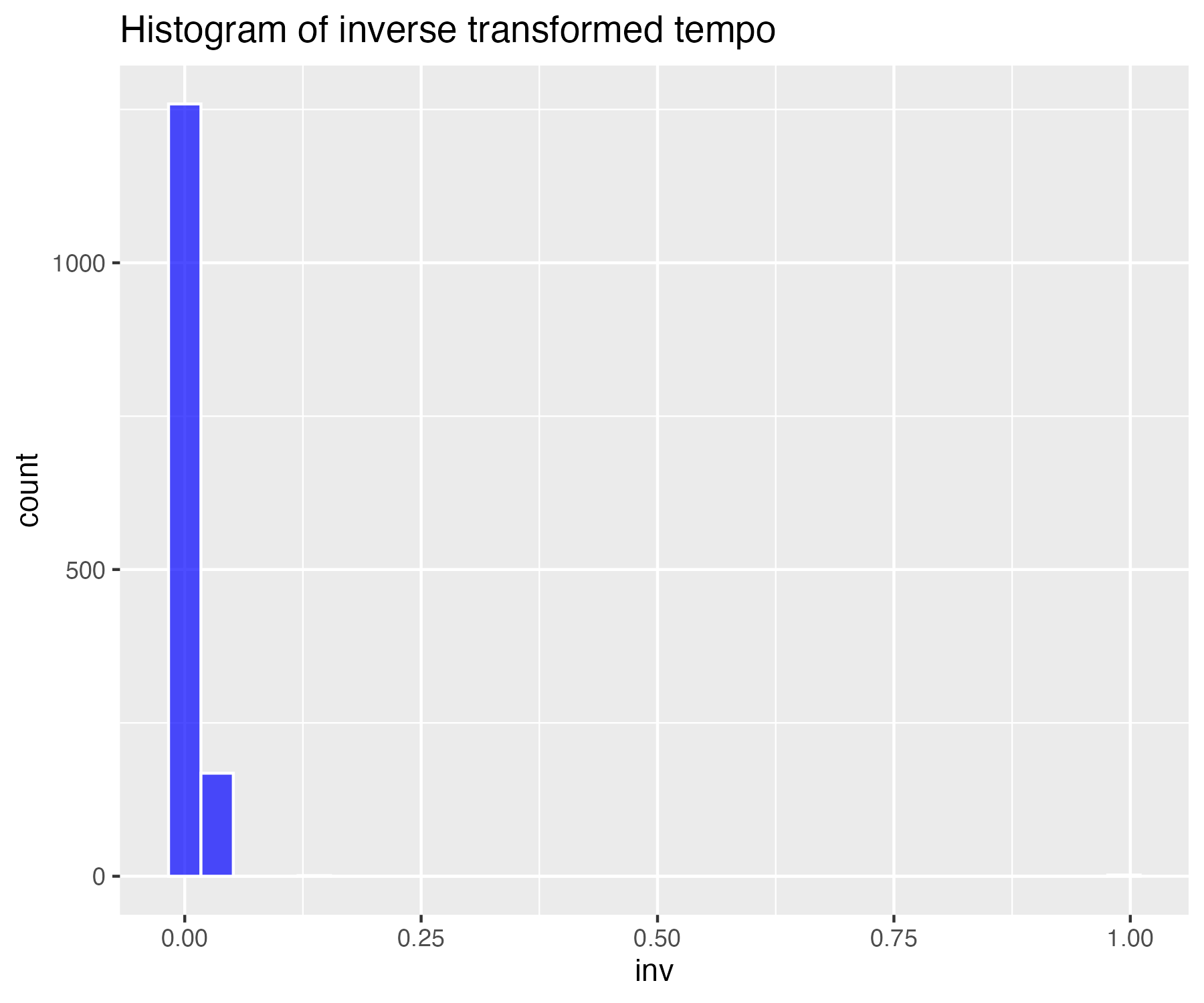
## Log base 10 transform of tempo (for high skew)



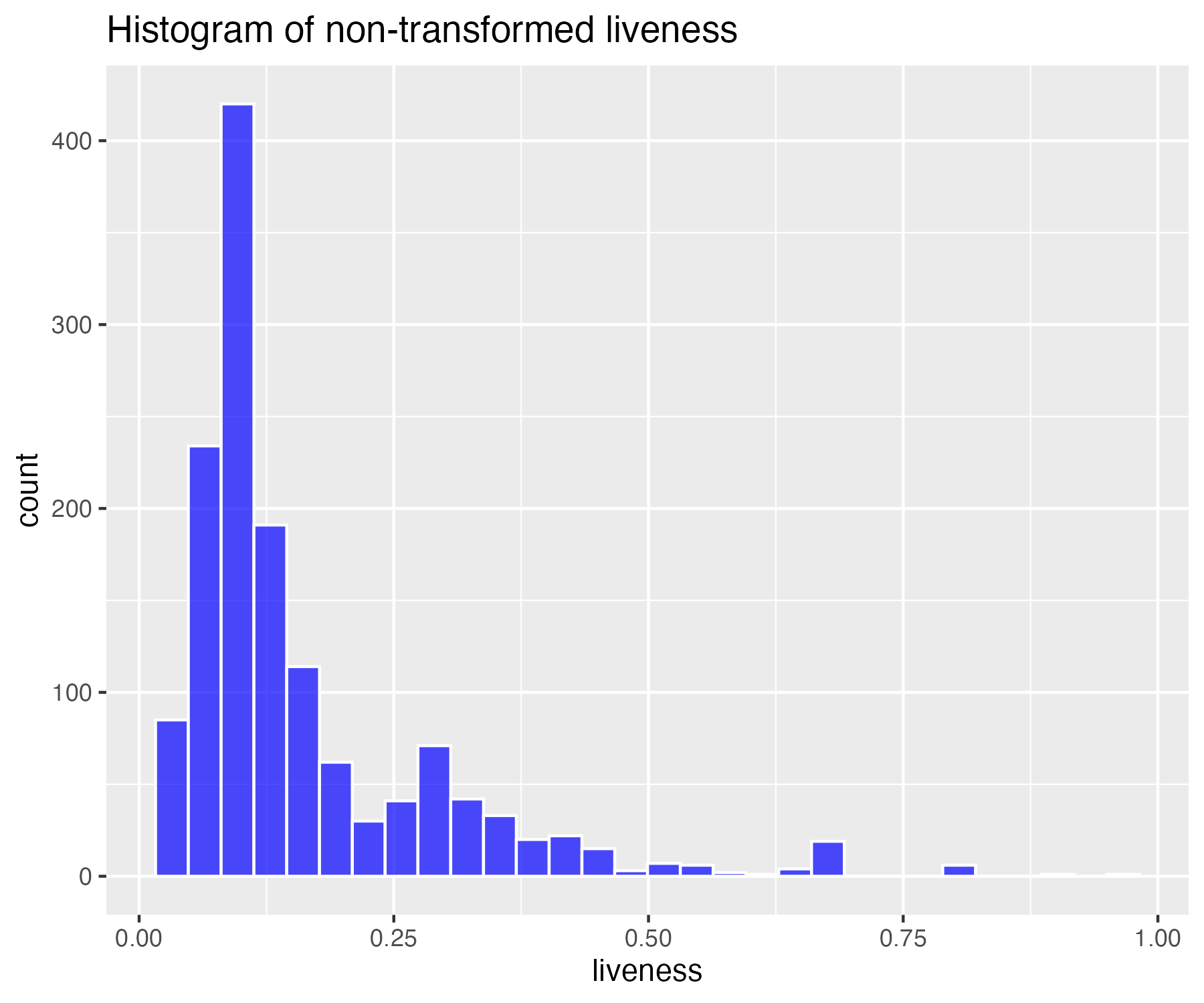
## Natural log transform of tempo (for higher skew)



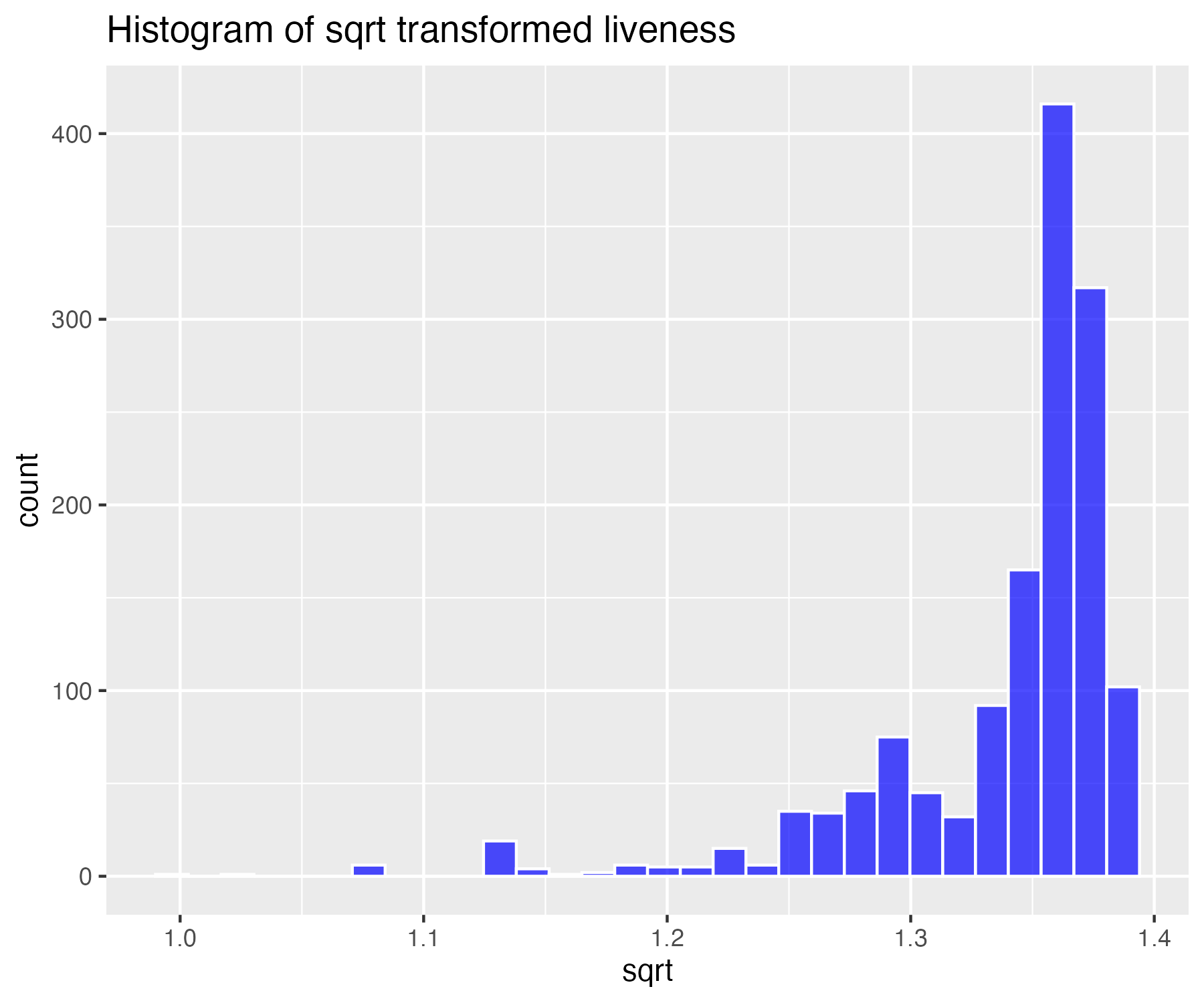
## Inverse transform of tempo (for severe skew)



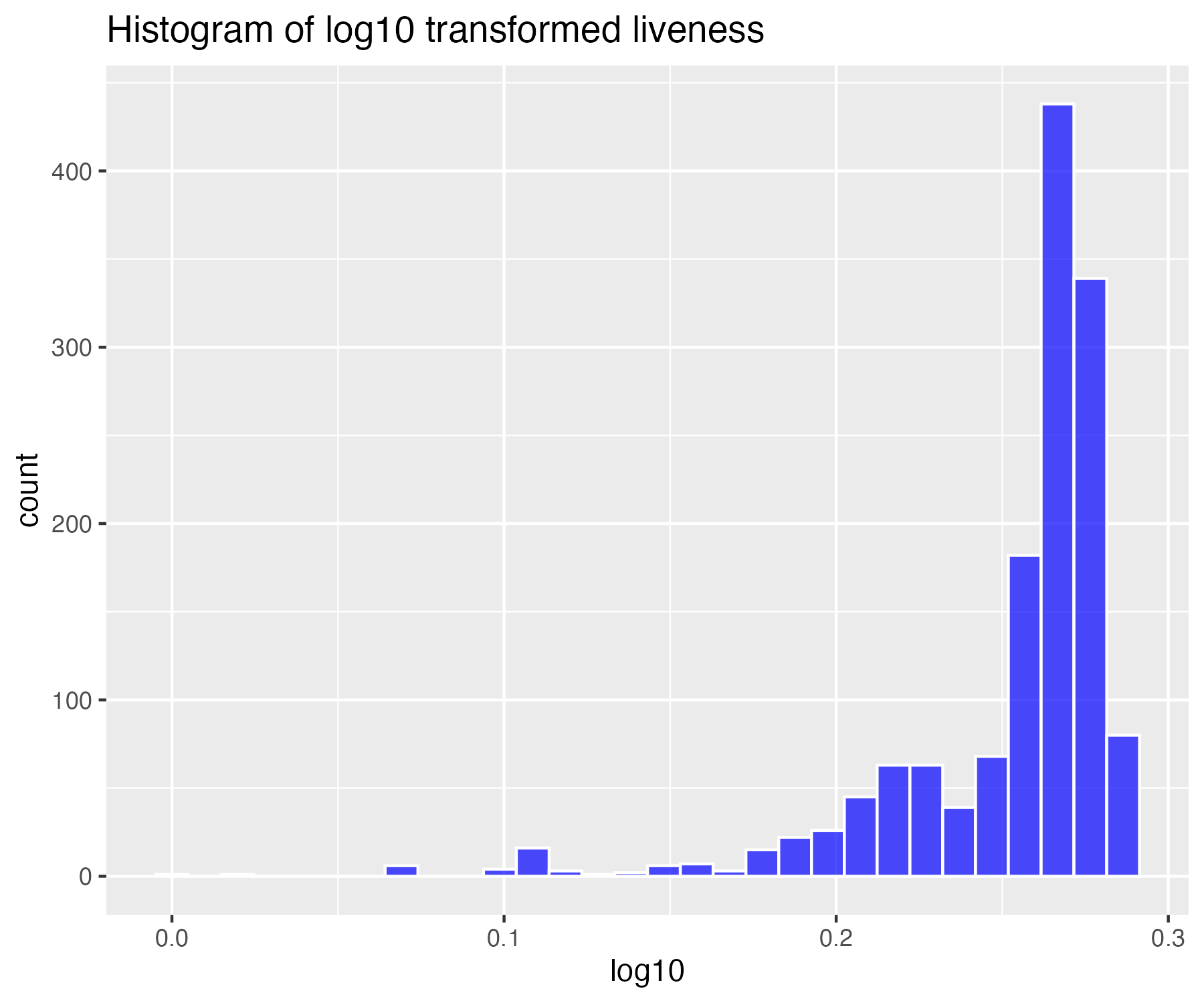
## Histogram of non-transformed liveness



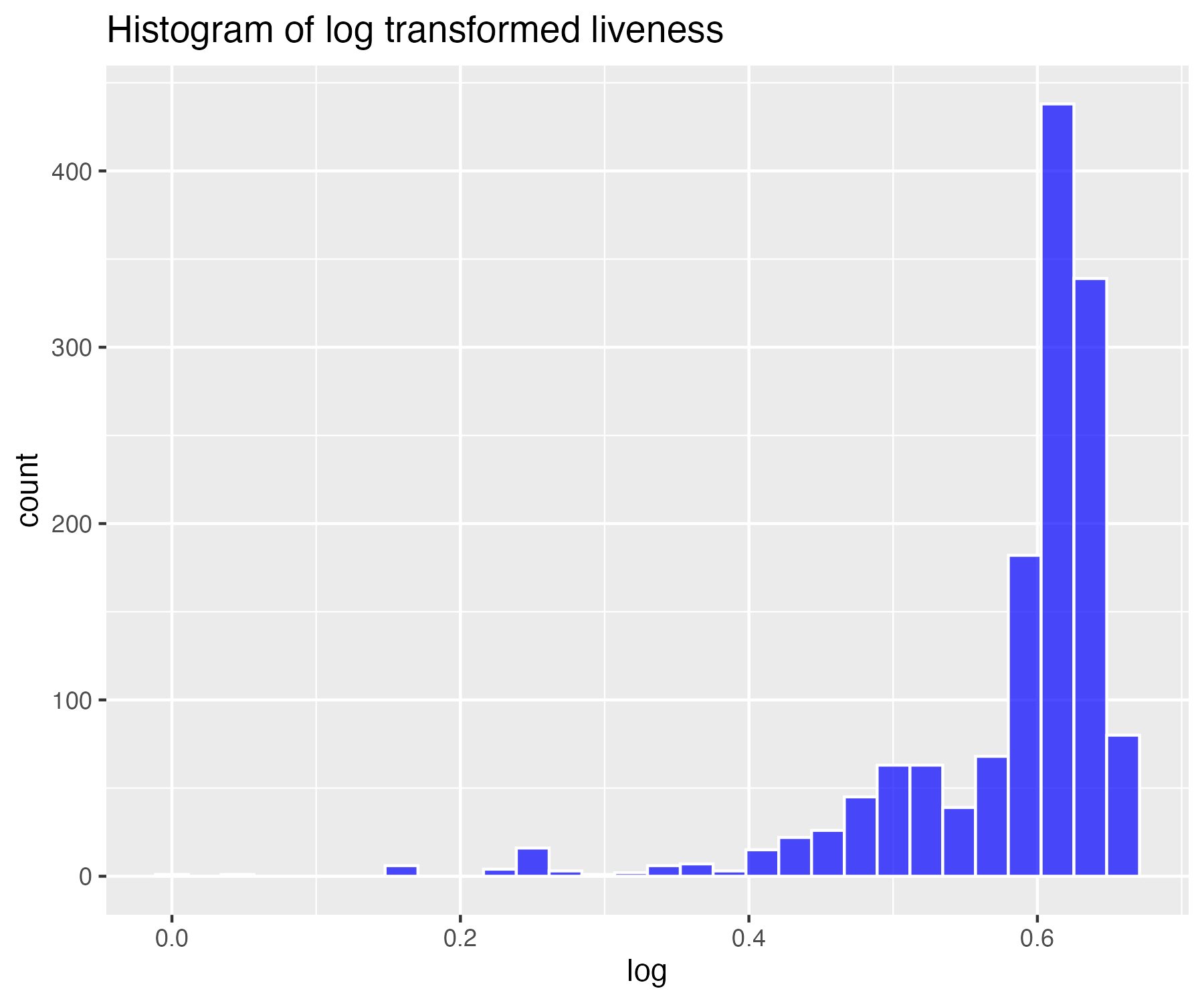
## Square-root transform of liveness (for moderate skew)



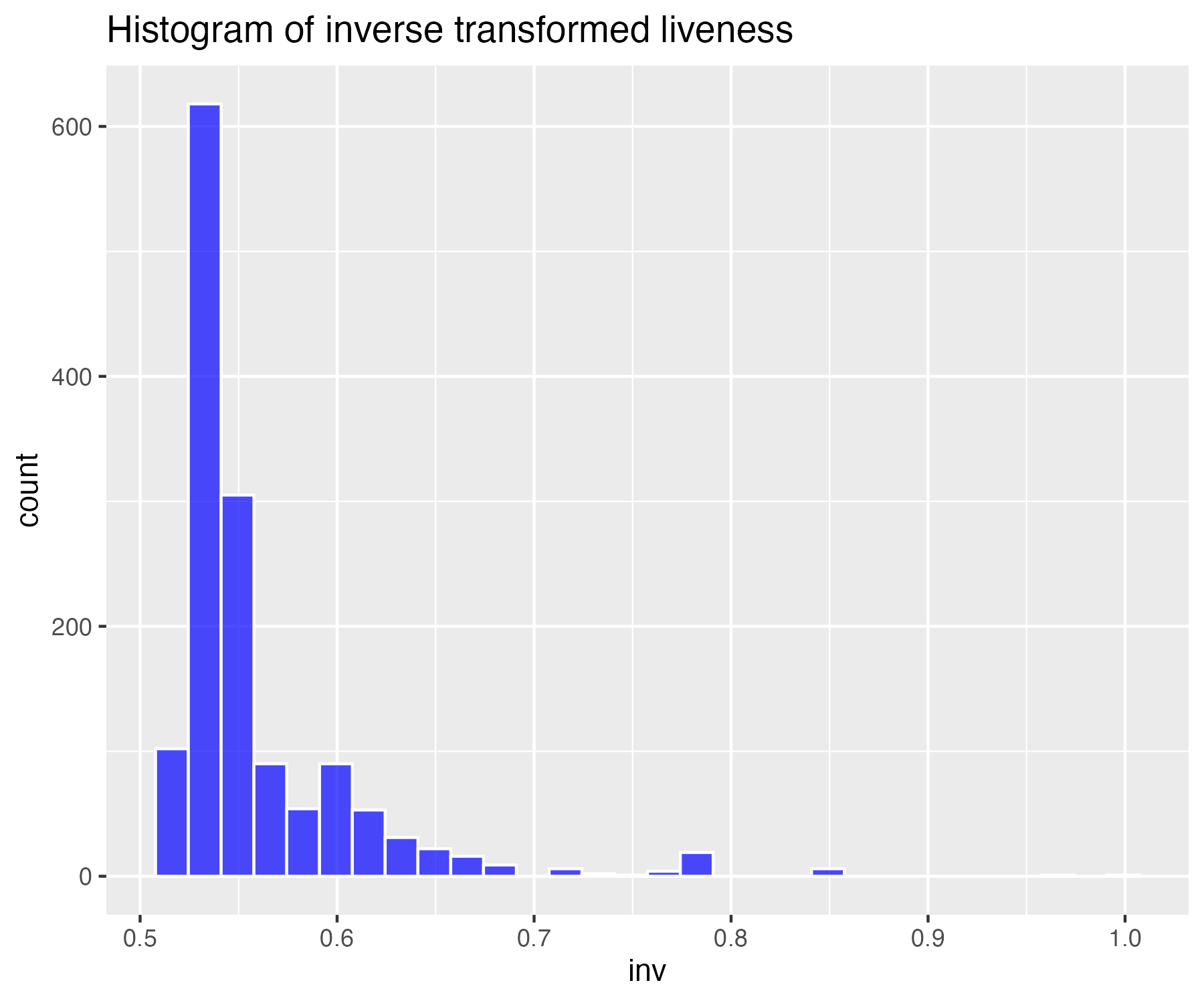
## Log base 10 transform of liveness (for high skew)



## Natural log transform of liveness (for higher skew)



## Inverse transform of liveness (for severe skew)



## Descriptives summary table for all variables (not transformed)

| matrix.nrow...20..ncol...1. | tempo | liveness |
| --- | --- | --- |
| nbr.val | 1,430.00 | 1,430.00 |
| nbr.null | 0.00 | 0.00 |
| nbr.na | 0.00 | 0.00 |
| min | 60.49 | 0.02 |
| max | 208.28 | 0.96 |
| range | 147.79 | 0.93 |
| sum | 170,134.78 | 231.26 |
| median | 118.95 | 0.11 |
| mean | 118.98 | 0.16 |
| SE.mean | 0.69 | 0.00 |
| CI.mean.0.95 | 1.35 | 0.01 |
| var | 672.32 | 0.02 |
| std.dev | 25.93 | 0.13 |
| coef.var | 0.22 | 0.83 |
| skewness | 0.50 | 2.19 |
| skew.2SE | 3.83 | 16.95 |
| kurtosis | -0.08 | 5.72 |
| kurt.2SE | -0.30 | 22.13 |
| normtest.W | 0.97 | 0.75 |
| normtest.p | 0.00 | 0.00 |

## Descriptives summary table for all variables - sqrt transform

| matrix.nrow...20..ncol...1. | tempo\_sqrt | liveness\_sqrt |
| --- | --- | --- |
| nbr.val | 1,430.00 | 1,430.00 |
| nbr.null | 0.00 | 0.00 |
| nbr.na | 0.00 | 0.00 |
| min | 1.00 | 1.00 |
| max | 12.20 | 1.39 |
| range | 11.20 | 0.39 |
| sum | 13,420.15 | 1,915.11 |
| median | 9.50 | 1.36 |
| mean | 9.38 | 1.34 |
| SE.mean | 0.04 | 0.00 |
| CI.mean.0.95 | 0.08 | 0.00 |
| var | 2.24 | 0.00 |
| std.dev | 1.50 | 0.05 |
| coef.var | 0.16 | 0.04 |
| skewness | -1.06 | -2.39 |
| skew.2SE | -8.21 | -18.49 |
| kurtosis | 1.65 | 7.10 |
| kurt.2SE | 6.37 | 27.46 |
| normtest.W | 0.93 | 0.73 |
| normtest.p | 0.00 | 0.00 |

## Descriptives summary table for all variables - log10 transform

| matrix.nrow...20..ncol...1. | tempo\_log10 | liveness\_log10 |
| --- | --- | --- |
| nbr.val | 1,430.00 | 1,430.00 |
| nbr.null | 2.00 | 1.00 |
| nbr.na | 0.00 | 0.00 |
| min | 0.00 | 0.00 |
| max | 2.17 | 0.29 |
| range | 2.17 | 0.29 |
| sum | 2,761.43 | 361.80 |
| median | 1.96 | 0.27 |
| mean | 1.93 | 0.25 |
| SE.mean | 0.00 | 0.00 |
| CI.mean.0.95 | 0.01 | 0.00 |
| var | 0.03 | 0.00 |
| std.dev | 0.17 | 0.04 |
| coef.var | 0.09 | 0.14 |
| skewness | -3.17 | -2.62 |
| skew.2SE | -24.49 | -20.25 |
| kurtosis | 25.40 | 8.83 |
| kurt.2SE | 98.22 | 34.14 |
| normtest.W | 0.79 | 0.71 |
| normtest.p | 0.00 | 0.00 |

## Descriptives summary table for all variables - log transform

| matrix.nrow...20..ncol...1. | tempo\_log | liveness\_log |
| --- | --- | --- |
| nbr.val | 1,430.00 | 1,430.00 |
| nbr.null | 2.00 | 1.00 |
| nbr.na | 0.00 | 0.00 |
| min | 0.00 | 0.00 |
| max | 5.00 | 0.66 |
| range | 5.00 | 0.66 |
| sum | 6,358.43 | 833.07 |
| median | 4.50 | 0.61 |
| mean | 4.45 | 0.58 |
| SE.mean | 0.01 | 0.00 |
| CI.mean.0.95 | 0.02 | 0.00 |
| var | 0.15 | 0.01 |
| std.dev | 0.39 | 0.08 |
| coef.var | 0.09 | 0.14 |
| skewness | -3.17 | -2.62 |
| skew.2SE | -24.49 | -20.25 |
| kurtosis | 25.40 | 8.83 |
| kurt.2SE | 98.22 | 34.14 |
| normtest.W | 0.79 | 0.71 |
| normtest.p | 0.00 | 0.00 |

## Descriptives summary table for all variables - inverse transform

| matrix.nrow...20..ncol...1. | tempo\_inv | liveness\_inv |
| --- | --- | --- |
| nbr.val | 1,430.00 | 1,430.00 |
| nbr.null | 0.00 | 0.00 |
| nbr.na | 0.00 | 0.00 |
| min | 0.01 | 0.52 |
| max | 1.00 | 1.00 |
| range | 0.99 | 0.48 |
| sum | 19.90 | 801.51 |
| median | 0.01 | 0.54 |
| mean | 0.01 | 0.56 |
| SE.mean | 0.00 | 0.00 |
| CI.mean.0.95 | 0.00 | 0.00 |
| var | 0.00 | 0.00 |
| std.dev | 0.04 | 0.05 |
| coef.var | 2.69 | 0.09 |
| skewness | 25.55 | 3.18 |
| skew.2SE | 197.42 | 24.61 |
| kurtosis | 668.96 | 13.81 |
| kurt.2SE | 2,586.35 | 53.40 |
| normtest.W | 0.06 | 0.65 |
| normtest.p | 0.00 | 0.00 |